

ZOOPHYTOLOGY.

On some MADEIRAN POLYZOA.

Collected by J. YATES JOHNSON, Esq.

(Continued from No. XXIV, p. 263.)

WE continue the account of zoophytes, brought by Mr. J. Y. Johnson from Madeira, and to which he has made some interesting additions in the present year, and kindly placed at our disposal for description. In the next number of the Journal we hope to be able to include figures of all the remaining new or imperfectly described forms brought by Mr. Johnson, and shall then give a general list of the known species derived from that most interesting locality.

1. POLYZOA CHEILOSTOMATA.

1. Gen. *Cellaria*, Lamx.1. *Cellaria Johnsoni*, B. Pl. XXII, figs. 4, 5.

Front cell elliptical, surface and ridges smooth; a ridge passing from each side of the front of the cell.

Hab. Madeira, Johnson.

Nellia Johnsoni, B. 'Micr. Journ.,' No. xxii, p. 125, Pl. XIX, fig. 2.

A figure taken from an imperfect and worn fragment was given in the last part of the Zoophytology, and the species is there referred to the genus *Nellia*. The examination, however, of the beautiful and perfect specimens collected in the present year by Mr. Johnson, necessitates its removal from that genus, and its reference to *Cellaria*, Lam., used as synonymous with *Salicornaria*, Cuvier and 'B. M. Cat.' Our reasons for preferring the term *Cellaria* to *Salicornaria* will be given at another opportunity. The present is an elegant and very distinct form.

2. Gen. *Scrupocellaria*, V. Bened.1. *Scrupocellaria Delilii*, Aud. (sp.) Pl. XXII, figs. 1, 2.

Operculum entire, suboval; a marginal spine on either side above. A small sessile avicularium on the front of each cell immediately below the aperture. Peristome smooth.

Hab. Madeira, Johnson; Mediterranean (?), Savigny.

Crisia Delilii, Savigny, 'Egypt,' pl. xii, fig. 3; Audouin, 'Expl.,' I, p. 242.

A very distinct species, characterised at once by the minute sessile avicularium, with an acute triangular avicularium immediately below the aperture. The presence of this organ and the smooth peristome distinguish it sufficiently from *S. Macandrei*, B., the only other species with which it could possibly be confounded. Savigny's figure is very correct to nature, so that no doubt whatever can be entertained of the identity between the Madeiran and Levantine (?) forms.

3. Gen. *Lepralia*, Johnst.

1. *L. Pouilletii*, Aud. Pl. XXII, fig. 6.

Cells oval, front marked with radiating lines of minute puncta. Mouth raised, and advanced in front, with five or six marginal spines above.

Hab. Madeira, Johnson; Mediterranean (?), Savigny.

Esch. Pouilletii, Savigny, 'Egypt,' pl. xii, figs. 1—5; Audouin, 'Expl.,' p. 240.

This is another of Savigny's species, with respect to whose identification little or no doubt can be entertained. It is readily distinguished from *L. radiata*, Moll., by the absence of the large avicularia and the uniformity of the front of the cell.

2. *L. discoidea*, n. sp. Pl. XXII, figs. 7, 8.

Cells disposed in regular lines radiating from a centre, closely adnate, immersed. Mouth with a raised margin, keyhole shaped. Surface pitted.

Hab. Madeira, Johnson.

4. Gen. *Eschara*, Linn.

1. *E. distoma*. Pl. XXII, figs. 10—12.

Polyzoary ligulate, subterete, branches narrow. Upper part of cell much advanced; mouth arcuate, expanded below. Beneath the mouth, in the centre, an acute elongated avicularium, and below that, in the front of the cell, a depressed space, perforated at the bottom with two rows of minute pores. Surface minutely granular or wavy.

Hab. Madeira, Johnson.

This is the species described in last part of Zoophytology, from an imperfect fragment, as *L. distoma*, B. It is, however, as there suggested, clearly an *Eschara*.

5. Gen. *Cupularia*, Läm.x.

1. *C. Lowei*, Gray (sp.)

2. *C. Canariensis*, n. sp. Pl. XXIII, figs. 6—9.

Polyzoary depressed, circular, about 0.5" in diameter. Front of cell sub-rhomboidal, expanded below the middle, aperture oval. Lamina granular, with an entire margin. Back divided into quadrangular portions, in each of which are from two to four perforations.

Hab. Madeira, Johnson; Canaries, McAndrew.

A distinct and well-marked form. Numerous specimens

were bought from the Canaries by Mr. M'Andrew two or three years ago.

3. *C. Johnsoni*, n. sp. ? Pl. XXIII, figs. 1—5.

Polyzoary conical, about 0.25" in diameter. Area of cell subelliptical, widest about the middle. Raised margin surrounding the upper part or oval portion of the cell produced downwards within the area, so as to present a horseshoe form. Edge of lamina denticulate or jagged, surface granular. Back of polyzoary with raised radiating ridges, each of which is more or less distinctly carinate, with a row of minute elevations on either side of the keel.

Hab. Madeira, Johnson.

It is not improbable that this form will turn out to be identical with the *C. denticulata* of Conradi, and perhaps, therefore, with the *O. Owenii*, Searles Wood, of the Crag. It is clearly distinct from the true African *C. Owenii*—1, in the conical form of the polyzoary; 2, in the horseshoe shape margin to the upper part of cell; and 3, perhaps in the row of elevations on each side of the ridges on the back of the disc. The cells also in the centre of the disc are always completely filled up, as shown in the figure—a circumstance which I have not observed in any specimen of *C. Owenii*.

4. *C. Owenii*, Gray (sp.)

Hab. Madira, Johns.; Coast of Africa, Gray; Fossil, Crag (?), S. Wood.

2. P. CYCLOSTOMATA.

1. Gen. *Tubulipora*.

1. *T. druidica*, n. sp. Pl. XXII, fig. 9.

Crust dense, strong, thick; tubes short, upright, placed in more or less distinct circles.

Hab. Madeira, Johnson.

This appears to be an undescribed form of *Tubulipora* or *Diatopora*, and is named from the peculiar arrangement of the column-like tubes. The determination of the genus must, however, be regarded only as provisional.

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DESCRIPTION OF PLATES.

PLATE XXII.

Fig.

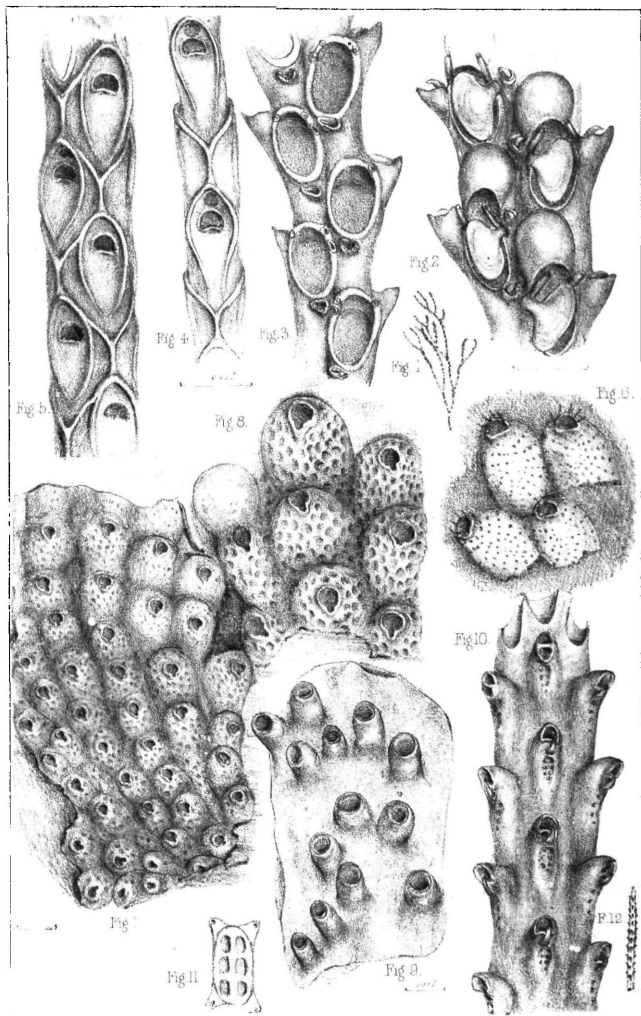
- 1.—*Scrupocellaria Detilii*, nat. size.
- 2.— " " with ovicells and opercula.
- 3.— " " in older or worn condition.
- 4.—*Cellaria Johnsoni*, younger state.
- 5.— " " older.
- 6.—*Lepralia Pouilletii*.
- 7.— " *discoidea*, $\times 25$ diam.
- 8.— " " $\times 50$ d.
- 9.—*Tubulispora druidica*.
- 10.—*Eschara distoma*, $\times 50$ d.
- 11.—Transverse section (diagram).
- 12.—Nat. size.

PLATE XXIII.

- 1.—*Cupularia Johnsoni*, nat. size.
- 2.—Cells near margin of disc.
- 3.—Cells from centre of disc.
- 4.—Back of disc.
- 5.—Single cell with cuticle and vibraculum.
- 6.—*Cupularia Canariensis*, nat. size.
- 7.— " " $\times 50$ d.
- 8.—Back.
- 9.—Single cell with cuticle and vibraculum.

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Plate XXII



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Plate XXIII.

